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**From:** Messina, Edward [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=95521FBF4E34496A879E364FAF7E5AA8-MESSINA, EDWARD]  
**Sent:** 11/23/2020 3:11:07 PM  
**To:** Dennis, Allison [Dennis.Allison@epa.gov]; Siedschlag, Gregory [Siedschlag.Gregory@epa.gov]  
**CC:** Keigwin, Richard [Keigwin.Richard@epa.gov]  
**Subject:** FW: Globe PFAS story  
**Attachments:** Summary of PFAS in Anvil test results fnl DA.docx; State use of Anvil 10+10 (updated 11.9.20) DA.docx; PFAS Fact Sheet for Anvil release FINAL for Review DA.docx; PFAS Anvil letter to DEP DA.docx; EPA letter -- PFAS DA.docx; 11\_20\_Aerially Sprayed Pesticide Contains PFAS DA (1).docx

Assuming this has made it your way. Might need some coordination with other program offices like OW and OLEM.

Ed

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Office of Pesticide Programs  
Office of Chemical Safety & Pollution Prevention  
U.S. Environmental Protection Agency  
Washington, D.C.  
p: (703) 347-0209

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**From:** Barmakian, Nancy <Barmakian.Nancy@epa.gov>  
**Sent:** Monday, November 23, 2020 10:02 AM  
**To:** Messina, Edward <Messina.Edward@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>  
**Cc:** McGuire, Karen <Mcguire.Karen@epa.gov>; Carr, Stephanie <Carr.Stephanie@epa.gov>; Deegan, Dave <Deegan.Dave@epa.gov>; Hayes, Sharon <Hayes.Sharon@epa.gov>  
**Subject:** FW: Globe PFAS story

Ed and Catherine,  
See questions from Globe below. Dave Deegan from our press office sent these to OCSPP comms. We are assuming OCSPP will take the lead in answering these questions.

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**From:** Deegan, Dave <Deegan.Dave@epa.gov>  
**Sent:** Monday, November 23, 2020 7:33 AM  
**To:** Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>  
**Cc:** Grantham, Nancy <Grantham.Nancy@epa.gov>; Leifer, Kerry <Leifer.Kerry@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Hull, George <Hull.George@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>  
**Subject:** Fwd: Globe PFAS story

Hi All, flagging for awareness Boston Globe inquiry below.

Assuming we will coordinate between HQ and region.

Dave

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Dave Deegan  
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Begin forwarded message:

**From:** "Abel, David" <[dabel@globe.com](mailto:dabel@globe.com)>  
**Date:** November 22, 2020 at 6:14:43 PM EST  
**To:** "Leifer, Kerry" <[Leifer.Kerry@epa.gov](mailto:Leifer.Kerry@epa.gov)>, "Deegan, Dave" <[Deegan.Dave@epa.gov](mailto:Deegan.Dave@epa.gov)>  
**Subject:** **Globe PFAS story**

Hi Kerry and Dave,

I hope all's well. I'm working on a potential story about elevated levels of PFAS found in Anvil, the insecticide Massachusetts and other states use to spray for EEE. Below is a table of findings from DEP, as well as a press release and other documents from PEER, urging the state to ban the use of the chemicals.

Just wondering if you could respond to these questions:

- Are these findings of PFAS in Anvil from the DEP concerning, and if so, why or why not?
- Should we be as concerned about forever chemicals (which don't degrade) being sprayed by air and truck entering drinking water and other water systems, and if so, why?
- Based on these findings, should the EPA or states ban the use of these chemicals, and if so, why or why not?

Thanks!

Best, David

#### Summary Table of PFAS Concentrations from MassDEP Anvil 10 + 10 Sampling:

| Sample collection date                    | 9/22                                                                   | 9/22           | 9/22                                                           | 9/22                      | 9/22                                        | 10/21          | 10/21          | 10/21                               | 10/21                                                 | 10/22                               |
|-------------------------------------------|------------------------------------------------------------------------|----------------|----------------------------------------------------------------|---------------------------|---------------------------------------------|----------------|----------------|-------------------------------------|-------------------------------------------------------|-------------------------------------|
| Sample type                               | 55 gal. drum 1                                                         | 55 gal. drum 2 | CONTROL: sampling device rinse cntrl. for 55 gal. drum 1 and 2 | 2.5 gal. jug 1 (SAMPLE 3) | sampling device rinse cntrl. 2.5 gal. jug 1 | 55 gal. drum 1 | 55 gal. drum 2 | 55 gal. drum 3 and duplicate sample | Sampling device rinse cntrl. for 55 gal. drum 1 and 2 | 2.5 gal. jug 2 and Duplicate sample |
| PFAS Compound                             | Concentration in nanograms per liter (ng/L) or part per trillion (ppt) |                |                                                                |                           |                                             |                |                |                                     |                                                       |                                     |
| <b>Perfluorobutanoic Acid (PFBA)</b>      | <b>692</b>                                                             | 171            | ND<br>ND                                                       | 52.8 J                    | ND                                          | <b>716</b>     | 174            | <b>230</b><br>216                   | ND<br>ND                                              | 59.2 J<br>62.9 J                    |
| Perfluoro-3-Methoxypropanoic Acid (PFMPA) | ND                                                                     | ND             | ND<br>ND                                                       | ND                        | ND                                          | ND             | ND             | ND<br>ND                            | ND<br>ND                                              | ND<br>ND                            |
| <b>Perfluoropentanoic Acid (PFPeA)</b>    | 296                                                                    | 76.6 J         | 0.370 J<br>ND                                                  | 35.2 J                    | ND                                          | 290            | 55.4 J         | 88.7 J<br>84.7 J                    | ND<br>ND                                              | 41.5 J<br>41.2 J                    |
| Perfluorobutanesulfonic Acid (PFBS)       | ND                                                                     | ND             | ND<br>ND                                                       | ND                        | ND                                          | ND             | ND             | ND<br>ND                            | ND<br>ND                                              | ND<br>ND                            |
| Perfluoro-4-Methoxybutanoic Acid (PFMBA)  | ND                                                                     | ND             | ND<br>ND                                                       | ND                        | ND                                          | ND             | ND             | ND<br>ND                            | ND<br>ND                                              | ND<br>ND                            |

|                                                                                   |               |           |                  |               |             |               |           |                  |                    |                        |
|-----------------------------------------------------------------------------------|---------------|-----------|------------------|---------------|-------------|---------------|-----------|------------------|--------------------|------------------------|
| Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFESA)                                    | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)                                        | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)                                 | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluorohexanoic Acid (PFHxA)                                                    | 132           | 41.2 J    | 0.407 J<br>ND    | 17.6 J        | 0.461 J     | 105           | 23.7 J    | 37.4 J<br>42.3 J | ND<br>ND           | 19.7 J<br>ND           |
| Perfluoropentanesulfonic Acid (PFPeS)                                             | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA) | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluoroheptanoic Acid (PFHpA)                                                   | 53.4 J        | 23.6 J    | ND<br>ND         | ND            | ND          | 47.6 J        | ND        | ND<br>19.2 J     | ND<br>ND           | ND<br>ND               |
| <b>Perfluorohexanesulfonic Acid (PFHxS)</b>                                       | <b>ND</b>     | <b>ND</b> | <b>ND<br/>ND</b> | <b>52.8 J</b> | <b>ND</b>   | <b>ND</b>     | <b>ND</b> | <b>ND<br/>ND</b> | <b>ND<br/>ND</b>   | <b>59.2 J<br/>57 J</b> |
| 4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)                                       | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)                                 | ND            | ND        | ND<br>ND         | ND            | ND          | 29.8 J        | 31.6 J    | 27.6 J<br>28.9 J | ND<br>ND           | ND<br>ND               |
| <b>Perfluorooctanoic Acid (PFOA)</b>                                              | <b>25.7 J</b> | <b>ND</b> | <b>ND<br/>ND</b> | <b>ND</b>     | <b>ND</b>   | <b>21.8 J</b> | <b>ND</b> | <b>ND<br/>ND</b> | <b>ND<br/>ND</b>   | <b>ND<br/>ND</b>       |
| Perfluoroheptanesulfonic Acid (PFHpS)                                             | 107           | 100       | ND<br>ND         | 125           | ND          | ND            | 98.9      | 63.0 J<br>52.0 J | ND<br>ND           | 138<br>108             |
| Perfluorononanoic Acid (PFNA)                                                     | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| <b>Perfluorooctanesulfonic Acid (PFOS)</b>                                        | <b>73.1 J</b> | <b>ND</b> | <b>ND<br/>ND</b> | <b>76.2 J</b> | <b>2.73</b> | <b>ND</b>     | <b>ND</b> | <b>ND<br/>ND</b> | <b>3.31<br/>ND</b> | <b>132<br/>141</b>     |
| 9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)                     | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)                                 | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluorodecanoic Acid (PFDA)                                                     | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluoroundecanoic Acid (PFUnA)                                                  | 13.8 J        | ND        | ND<br>ND         | 21.5 J        | ND          | 184           | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)                | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluorododecanoic Acid (PFDoA)                                                  | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |

Table notes: ND = not detected; J = estimated value; Tube rinse cntrl. = sampling device rinsates performed at sampling site prior to sample collection to assess any sampling device contamination. All field and trip blanks were generally non-detect and are not presented. In one, PFOS was detected at 3.3 ppt.

All samples were analyzed by Alpha Analytical, Mansfield, MA. using a modified version of EPA Method 533. Stated reporting limits for product samples were below 100 ng/L with detection limits ranging from approximately 5-50 ng/L depending on the analyte. QA/QC issues were appropriately noted by Alpha Analytical in the lab reports but all QA/QC elements have not been fully reviewed by MassDEP at this time.

The September and October samples were collected by two different contractors using new sampling devices. The October 2.5 gallon jug samples were directly poured into the sample collection tubes.

Initial samples that were collected on 9/2 are not presented. These were invalidated because appropriate field controls were not collected by the contractor and results were consistent with samples being contaminated during collection. In that round, five to thirteen PFAS were detected in duplicate analyses of the single drum 1 sample collected, with a maximum concentration of 25 ug/L (25,000 ppt) for PFBA.

David Abel

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